

ROLL MOUNT DISPENSER

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ROLL MOUNT DISPENSER

BACKGROUND OF THE INVENTION

Dry sheets and premoistened sheets, are now becoming acceptable for use for bath or toilet tissue. Dry sheets and premoistened sheets are generally formed from an absorbent material such as a paper or a polymeric web, or combinations thereof, and may contain a disinfectant, medicant, deodorant, anti-microbial, anti-bacterial, cleansing agent, and so forth, in one or more combinations, on a dry sheet, or in a "wet" formulation on a premoistened sheet. Premoistened sheets are generally stored and dispensed from a sealable container to prevent the sheets from drying out.

Rolls of bath tissue have been used for many years in conventional bath tissue fixtures. One problem in supplying bath tissue in roll form on such fixtures is that, traditionally, there has been no area on the fixture to hold a reserve supply of sheets, to be used, as needed, when the roll is depleted.

Conventional bath tissue fixtures include support arms. A roll mount or conventional spindle is suspended between the support arms, to hold a roll of bath tissue. Such a roll mount is traditionally hollow.

Accordingly, it would be desirable to provide a dispenser in the form of a roll mount capable of dispensing dry and/or premoistened sheets from an internal compartment. The roll mount would function as usual to hold a roll of bath tissue and to permit the roll of bath tissue to rotate about the roll mount while the roll mount is coupled to the support arms of a conventional bath tissue fixture. However, the roll mount would provide access to dry sheets and/or premoistened sheets from a dispenser opening. Such access would provide a reserve amount of dry sheets, or, alternatively, would provide access to premoistened sheets from the dispenser as well as the dry sheets from the roll of bath tissue positioned thereabout. Such a dispenser would desirably be refillable, or would be non-refillable and disposable after being emptied. Such a dispenser would also desirably be easy to use with a conventional bath tissue fixture.

30 DEFINITIONS

As used herein, the term "exit port" or "dispensing port" is the opening in a housing of a dispenser for the passage of sheet material out of the dispenser.

As used herein, the term "centerflow roll" or "centerflow roll product" means sheet material wound cylindrically about a center, but permitting the removal of material from the center. Desirably, as the centerflow roll is consumed, sheet material eventually dispenses from the roll's periphery. Dispensing of centerflow roll products are described in

numerous patents, such as, but not by way of limitation, U.S. Pat. Nos. 5,370,338 to Lewis and 6,082,663 to Tramontina et al.

As used herein, the term "sheet material" means a material that is thin in comparison to its length and breadth. Generally speaking, sheet materials should exhibit 5 a relatively flat planar configuration and be flexible to permit folding, rolling, stacking, and the like. Exemplary sheet materials include, but are not limited to, paper tissue, paper towels, label rolls, or other fibrous, film, polymers, or filamentary products.

As used herein, the term "fasteners" means devices that fasten, join, connect, secure, hold, or clamp components together. Fasteners include, but are not limited to, 10 screws, nuts and bolts, rivets, snap-fits, tacks, nails, loop fasteners, and interlocking male/female connectors, such as fishhook connectors, a fish hook connector includes a male portion with a protrusion on its circumference. Inserting the male portion into the female portion substantially permanently locks the two portions together.

As used herein, the term "hinge" refers to a jointed or flexible device that connects 15 and permits pivoting or turning of a part to a stationary component. Hinges include, but are not limited to, metal pivotable connectors, such as those used to fasten a door to frame, and living hinges. Living hinges may be constructed from plastic and formed integrally between two members. A living hinge permits pivotable movement of one member in relation to another connected member.

20 As user herein, the term "couple" includes, but is not limited to, joining, connecting, fastening, linking, or associating two things integrally or interstitially together.

These terms may be defined with additional language in the remaining portions of the specification.

25 **SUMMARY OF THE INVENTION**

In response to the difficulties and problems discussed above, a dispenser is provided, which includes a housing configured to extend between a pair of support arms of a roll product fixture. The housing has a compartment configured to hold sheet material. The housing is configured to be disposed through a core positioned through a center of a 30 roll of sheet material. The housing also includes opposite ends, each of which has a protruding member which is configured to fit into a recess in a support arm of a roll product fixture. At least one end of the housing has a dispensing module. The dispensing module is configured to permit sheet material to pass from the housing through the dispensing module and out an exit port. A portion of the dispensing module extends radially away 35 from the housing, and it is positioned adjacent a flat face of a roll. The exit port is

positioned in the dispensing module away from the housing such that it is readily accessibly by a user.

BRIEF DESCRIPTION OF THE DRAWINGS

5 Figure 1 is a perspective view of an embodiment of a roll mount dispenser, positioned between support arms of a conventional roll product fixture;

 Figure 2 is an exploded view of the roll mount dispenser, the support arms of the roll product fixture, and a roll of sheets to be positioned in a housing of the dispenser;

 Figure 3 is another perspective view similar to Figure 1, but showing the sheet
10 being partially withdrawn from a dispensing module of the roll mount dispenser;

 Figure 4 is a sectional view of Figure 3 taken along line 4-4, showing a sheet as it moves from a compartment in the housing through a chamber in the dispensing module and out through an exit port;

 Figure 5 is a perspective view of another embodiment of the roll mount dispenser
15 positioned between support arms of the conventional roll product fixture;

 Figure 6 is an exploded view of the roll mount dispenser, the support arms of the roll product fixture, and a cartridge holding sheets to be positioned in the housing of the dispenser;

 Figure 7 is another perspective view similar to Figure 5, but showing the sheet
20 being partially withdrawn from the dispensing module of the roll mount dispenser;

 Figure 8 is a sectional view of Figure 7 taken along line 8-8, showing a sheet as it moves from a compartment in the housing through a chamber in the dispensing module and out through an exit port;

 Figure 9 is a perspective view of yet another embodiment of the roll mount
25 dispenser positioned between support arms of the conventional roll product fixture;

 Figure 10 is an exploded view of the roll mount dispenser, the support arms of the roll product fixture, and a roll of sheets to be positioned in the housing of the dispenser;

 Figure 11 is another perspective view similar to Figure 9, but showing the sheet being partially withdrawn from the dispensing module of the roll mount dispenser;

30 Figure 12 is a sectional view of Figure 11 taken along line 12-12, showing a sheet in a position to be discharged through the exit port; and

 Figure 13 is another sectional view similar to Figure 12, but showing the door and finger tab urging the sheet downward as it flows from the compartment in the housing through the chamber in the dispensing module and out through the exit port.

DETAILED DESCRIPTION

Reference will now be made in detail to one or more embodiments of the invention, examples of which are illustrated in the drawings. Each example and embodiment is provided by way of explanation of the invention, and is not meant as a limitation of the

5 invention. For example, features illustrated or described as part of one embodiment may be used with another embodiment to yield still a further embodiment. It is intended that the invention include these and other modifications and variations as coming within the scope and spirit of the invention.

Referring to the figures in general, a dispenser is provided for storing and
10 dispensing sheets. It should be appreciated that the present invention is not limited to any particular type of sheets. The dispenser, may dispense, a roll of sheets, a center-flow roll of sheets, festooned (accordion folded) sheets, individual stacked sheets and/or interfolded sheets, as generally illustrated in the figures.

The dispenser may also dispense dry sheets and/or premoistened sheets. Non-limiting examples of dry sheets are disclosed in U.S. Pat No. 3,301,746 to Sanford et al., U.S. Pat. No. 3,322,617 to Osborne, U.S. Pat. No. 5,048,589 to Cook et al., U.S. Pat. No. 5,399,412 to Sudall et al., U.S. Pat. No. 5,607,551 to Farrington et al., and U.S. Pat. No. 5,672,248 to Wendt et al., all of which are incorporated by reference herein in their entirety. Non-limiting examples of premoistened sheets are disclosed in U.S. Pat. Nos. 4,741,944 and 4,865,221, both to Jackson et. al., U.S. Pat. No. 5,629,081 to Richards et al., U.S. Pat. No. 5,656,361 to Vogt et al., and U.S. Pat. No. 5,964,351 to Zander, all of which are incorporated by reference in their entirety herein. Such configurations for dry sheets, such as bath tissue and facial tissue, and/or premoistened sheets are well known to those of ordinary skill in the art and need not be described in great detail herein.

25 As illustrated in Figures 1-4, a roll mount dispenser 10 according to the invention is provided for dispensing dry and/or premoistened sheets. As shown in Figure 1, the roll mount dispenser 10 includes a generally cylindrical housing 12 having an opening 13 extending therethrough, which provides a compartment 14 (Figure 4) therein in which a roll 16 of sheets 18 are stored and dispensed. In the present embodiment, but not by way
30 of limitation, the roll is a centerflow roll of sheets. The housing 12 has opposing first and second ends 19, 20 as well. The first end 19 includes an end cap 22 having a push button 24 which permits the dispenser 10 to be releasably coupled to a conventional rolled bath tissue fixture 26. The second end 20 includes a dispensing module or a dispensing cap 28, which permit sheets 18 to be dispensed from the dispenser 10, as described in detail
35 below.

The conventional rolled bath tissue fixture 26, as illustrated in Figures 1-4, has at least a pair of side support arms 30 mounted to and extending transversely from a generally vertically disposed support surface 32. Alternatively, the support arms 30 are coupled to a base or back member (not shown). Each of the side support arms 30

5 includes a coupled end 34 positioned against the vertically disposed support surface 32 and an opposite free end 36 which desirably has a divot or recess 38 therein.

Typically, the support arms 30 have a width dimension 40 which extends between the support arms 30 to hold a roll mount. The width dimension 40 between the support arms is typically in a range of about 6.0 inches to about 4.0 inches.

10 As used herein, the term "roll mount" includes a spindle, or any device that spans the distance between the support arms 40 of a fixture 26 to hold a roll of sheets, such as, but not by way of limitation, a roll of bath tissue sheets 41 (the roll shown in phantom lines) thereon. Typically, a roll mount (not shown) includes a protruding member on each end; a protruding member desirably engages a recess 38 of each support arm 30 to hold the
15 roll mount, and therefore the roll of sheets, in place. The protruding members are represented in the current embodiments disclosed herein, by way of non-limiting example, as buttons. Any prongs, rods, projections, hooks, spikes, protrusions, protuberances, and so forth, which permits the dispenser 10 to be coupled to a fixture 26 may be used.

Turning back to the housing 12, as shown in Figures 2 and 4, the first end 19
20 includes an end cap 22 having a protruding member or push button 24 which is biased to extend into the recess of the support arm 30. The end cap 30 may be provided as a separate apparatus, or it may be integral to the housing 12. The push button 24 includes a flange 42 positioned about an open end 44 thereof of the button 24 and an opposing button end 45. The flange 42 acts to retain a portion of the button 24 within an inner area
25 46 of the end cap 22. The button end 45 in the biased position extends through an opening (not shown) in the end cap 22 to engage the recess 38, thereby holding the dispenser 10 in a position across the width 40 between the support arms 30. A spring 48 is positioned to bias the push button 24 in this position. The spring 48 is positioned adjacent an inner surface 50 of the push button 24 and is biased between the button end
30 45 and a holding disk 52 which is also positioned in the inner area 46 of the end cap 22. The holding disk 52 may have a pair of opposing notches 54 which correspond to the positioned of two opposing prongs 56 which may be positioned in the end cap 22. The notches 54 of the holding disk 52 slip over the prongs 56 of the end cap 22. The disk 52 is retained in place in the end cap 22 when it is rotated such that its notches 54 are out of
35 alignment with the prongs 56. It will be appreciated that other configurations which hold

the disk 52 in place may also be used. The end cap 22 may be formed integrally with the first end 19 (not shown), or separately, as illustrated best in Figures 2 and 4.

Turning now to the opposite end of the dispenser, as shown in Figures 1-4, the second end 20 includes a controlling means including a dispensing module or dispensing cap 28 which fits over the second end 20 of the housing 12. The second end 20 includes an opening 58 therein through which sheets 18 extend. The dispensing cap 28 includes an exit port 60, through which the sheets 18 are withdrawn by a user.

The dispensing cap 28 includes a protruding member or a fixed button 62 which extends therefrom and is configured to be received into the recess 38 in one of the support arms 30. Alternatively, however, it will be appreciated that the fixed button 62 may be replaced by a spring biased push button. The dispensing cap 28 may be provided as a separate apparatus, or it may be integral to the housing 12 (not shown). In addition, the fixed button 62 of the dispensing cap 28 and/or the button 24 of the end cap 22 and/or the housing 12 may be formed from a resilient material which permits the housing 12 and/or the buttons 62, 24, to bend or give, to permit the housing 12 to be positioned between the support arms 30 of the roll product fixture 26.

The dispensing cap 28 includes a chamber 64 which provides a pathway for sheets 18 to flow from the housing 12 and opening 58 therein to the exit port 60. The exit port 60 is provided in a lower portion 66 of the dispensing cap 28. An access door 70 is positioned on an outer wall 68 of the dispensing cap 28, and is coupled thereto via a living hinge, although it will be appreciated that latches, pins, other hinges, and so forth, and any apparatus which permits the access door 70 to operate as shown and described herein may be used. The access door 70 is lifted upward by a user, which opens and permits access to the exit port 60 and the sheets 18 which are withdrawn by a user therethrough.

The access door 70 may be positioned into an open position (Figure 4) when a finger tab 74 which extends from an end portion 76 of the access door 70 causes the access door 70 to move outward, away from the outer wall 68. The access door 70 is otherwise positioned in a closed position, as shown in Figure 1. That is, the finger tab 74 desirably permits a user to place his/her finger on the finger tab 74 to pivotably move the access door 70 into an open position to permit dispensing of sheets from the exit port 60. The access door 70 and or finger tab 74 may include a latch or latch assembly which releasably couples the access door 70 in the closed, non-dispensing position (not shown). It will be appreciated than any number of latch mechanisms may be used to couple the access door 70 to the outer wall 68.

An inner wall 78 is positioned opposite the outer wall 68, and separated therefrom by a perimeter wall 80. The inner wall 78, outer wall 68 and perimeter wall 80 provide a

substantial portion of the chamber 64. The inner wall 78 includes an opening 79 therein which is configured to receive the second end 20 of the housing 12. The inner wall 78 includes an outer surface 82 which is positioned adjacent the roll of sheet material 41, as shown in Figure 4. The inner wall 78 positioned adjacent the roll of sheet material 41

5 desirably may have a substantially smooth surface and even configuration, so that the roll of sheet material 41 is not inhibited from rolling about the roll mount dispenser 10 when positioned thereon, and no substantial friction is imposed on or imparted to the roll 41.

The roll of sheet material 41 includes a generally cylindrical body 84 and spaced-apart and opposing flat opposite faces 85, 86, as shown in Figure 4. A core 88 extends 10 through the center of the flat opposite faces 85, 86 and the roll of sheet material 41. The outer surface 82 of the inner wall 78 is positioned near or against the face 85 of the roll of sheet material 41. Ideally the outer wall 68 of the dispensing cap 28 is positioned adjacent a user, so that the access door 70 and sheets 18 obtained therethrough is readily assessable to the user.

15 The housing 12 of the dispenser 10 extends only between the support arms 30 of the fixture 26. No portion of the dispenser 10 provides any portion of the support arms 30 or the fixture 26. When a roll of sheet material 41 is mounted on the dispenser 10, a single longitudinal axis or first axis 90 extends through a center of the core 88 of the roll of sheet material 41 and a center of the compartment 14 of the housing 12. The housing 12 20 is configured to substantially fill the core 88 of the roll of sheet material 41. In addition, the compartment 14 of the housing 12 is desirably substantially filled when sheets 18 are disposed therein.

The lower portion 66 of the dispensing cap 28 may be positioned on another axis or second axis 92 which is not parallel to the first axis 90. Desirably, the lower portion 66 25 may be positioned on the second axis 92 which intersects the first axis 90. More desirably, the lower portion 66 is positioned on the second axis 92 which may be perpendicular to the first axis 90. Similarly, the sheets 18 positioned in the compartment 14 desirably are positioned on the first axis 90, but turn to follow the second axis 92 to be dispensed through the exit port 60.

30 As noted previously, the sheets 18 may be dry sheets or premoistened sheets, and the housing 12 may be refillable. The sheets 18 may be provided in a roll, as shown in Figure 1, or may be provided in a cartridge, as illustrated in Figures 5-8. Desirably, when the sheets 18 are premoistened, they are provided in a sealed cartridge (Figures 6 and 8). The seal of the cartridge is opened when the premoistened sheets are loaded in the 35 compartment 14 of the housing 12 (Figure 8). Alternatively, however, the dispenser 10

may be non-refillable. In this instance, sheets 18 may be sealed in the housing 12, and when all sheets 18 are removed from the housing 12, the dispenser 10 is disposed of.

It refillable, the housing 12 may desirably open at the first and/or second ends 19, 20 (not shown), and the end cap 22 and/or the dispensing cap 28 may be removed. It will

5 be understood that the end cap 22 and/or dispensing cap 28 may be screwed in place (cooperative end and cap being threaded) (not shown), frictionally engaged with the ends 19, 20, held in place, or fastened together with cooperative grooves/ridges, hinges, such as living hinges, fasteners, latches, and so forth, to permit access and closure to the compartment 14 in the housing 12, and to permit loading of sheets 18 therein.

10 The dispenser 10 or any portion thereof may be formed from any conventional material, such as, but not by way of limitation, metal, plastic, wood, fabric, fiber, and any combination thereof, and so forth. The dispenser 10 or any portion thereof may also be provided from a relatively inexpensive cardboard, paperboard, paper, plastic, polymer film, cellophane, and any combination thereof, and so forth. The dispenser 10 or any portion 15 thereof may be provided in any shape or configuration so long as the housing operates for the purposes shown and/or described herein, and the present embodiments are provided only as non-limiting examples thereof.

In the embodiments illustrated herein, the width dimension 40 between the support arms 30 also determines at least a portion of a length dimension 94 of the roll mount

20 dispenser 10. The length dimension 94 of the roll mount dispenser 10 is desirably in a range of about 6.0 inches to about 4.0 inches. Even more desirably, the length dimension 94 is in a range of about 5.75 inches to about 4.25 inches. Yet even more desirably, the length dimension 94 is in a range of about 5.5 inches to about 4.5 inches. The roll mount dispenser 10 also includes a width dimension 96. Desirably the width dimension 96 is 25 configured to permit the dispenser 10 to be inserted through the core 88 of the roll of sheet material, however, the width dimension 96 is also sized to permit sufficient sheets 18 to fill the compartment 14 of the housing 12.

In a method of use, as shown in Figure 1 and 4, a roll of sheet material 41 is positioned on the roll mount dispenser 10. The roll mount dispenser 10, in turn, is

30 releasably positioned between the support arms 30 of the fixture 26 by depressing the button end 45 of the pushbutton 24 so that the push button 24 and the fixed button 62 each are positioned in a recess 38 of one in one of the support arms 30. The roll of sheet material 41 desirably rotates in a clockwise or counter clockwise direction about the roll mount dispenser 10.

35 To withdraw a sheet 18 from the roll mount dispenser 10, the user moves the access door 70 to an open position via the finger tab 74. The access door 74 opens to

reveal the exit port 60 and a portion 98 of a sheet 18 contained in the chamber 64. When the portion 98 of the sheet 18 is pulled by a user, the sheet 18 moves from the compartment 14 through the opening 58 in the second end 20 and through the chamber 64 of the dispensing cap 28, and out of the exit port 60. Desirably, another portion 98 of 5 another sheet 18 will remain in the lower portion 66 of the dispensing cap 28 near the exit port 60, until that other sheet 18 is withdrawn. The access door 70 will desirably close the exit port 60 via gravity and/or a latch assembly, and so forth.

In another embodiment of the present invention, as shown in Figures 5-8, a dispenser 110 and housing 112 is provided which is similar to the dispenser 10 and 10 housing 12. The dispenser 110, however, has a different housing 112, a different dispensing module or dispensing cap 128, and a different end cap 122. In addition, the dispenser 10 has festooned (accordion folded) premoistened sheets 18 contained in a cartridge 129.

The first end 119 includes the end cap 122 which has a protruding member or fixed 15 button 145 which extends from a portion of the end cap 122. The fixed button 145 is configured to engage the recess 38 of one of the support arms 30. The end cap 122 also includes peripheral wall 146. The inner surface 150 of the peripheral wall 146 of the end cap 122 engages the housing 112 to hold the end cap 122 in position; the engagement may be made by any manner shown and/or described herein.

20 The housing 112 includes a partially closed second end 120 which has an opening 121 therein. Alternatively, however, a disk, desirably similar to the disk 52 shown in Figures 2 and 4 may be used, however. Such a disk will desirably have an opening therein. It will be appreciated that either embodiment of the second end 120 is intended as a non-limiting embodiment, and any apparatus which operates as shown and/or 25 described herein may be used.

The second end 120 includes the dispensing cap 128, as shown best in Figures 2 and 4, which has a protruding member or fixed button 162 which extends therefrom and is configured to be received into the recess 38 of one of the support arms 30. A perimeter 30 163 of the fixed button 162 includes opposing prongs 165. The dispensing cap 128 fits over the second end 120 of the housing 112, to permit sheets to flow from the housing 112 through a chamber 164 to an exit port 160.

The exit port 160 is positioned on an outer wall 172 of the dispensing cap 128. An inner wall 178 is positioned opposite the outer wall 168, and is separated therefrom by a perimeter wall 180, all of which cooperate to form a substantial portion of the chamber 35 164 through which the sheets flow from the housing 112 through the exit port 160. The inner wall 178 includes an opening therein which is configured to receive the second end

120 of the housing 112. A semi-circular hook 190 is positioned, for example but not by way of limitation, on a portion of a perimeter wall 180.

A flexible spring 191 is disposed on the dispensing cap 128 by positioning the circular portion 192 over the perimeter 163 and the prongs 165 thereon. The spring 191 includes a pair of legs 193. One leg is desirably positioned against the hook 190.

5 The dispensing cap 128 also includes a movable door 170 which releasably couples to the fixed button 162 of the dispensing cap 128. The movable door 170 has an opening 194 therein having a pair of opposing notches 195 positioned therein. The movable door 170 also includes a front side 196 having a finger tab 174 thereon. A semi-
10 circular door hook 197 desirably is provided along a perimeter edge 198 of the movable door 170, although it will be appreciated that the door hook 197 may be provided on an inner surface 199 of the door 170, and so forth, as well (not shown).

The movable door 170 is disposed on and releasably coupled to the dispensing cap 128 when the notches 195 therein are slipped over the prongs 165 positioned on the perimeter 163 of the fixed button 162. The other leg 193 of the spring 191 is desirably positioned inside of the door hook 197. The spring 191 biases the movable door 170 in the closed position, but allows a user to press the finger tab 174, as best illustrated in Figure 5, to rotate the door away from the exit port 160, so that a sheet 18 may be withdrawn from the dispenser 10.

20 The sheets 18 illustrated in Figures 6 and 8 are desirably premoistened sheets which are festooned and disposed in a sealed cartridge 129. One end 117 of the cartridge 129 is desirably opened just before the cartridge 129 is inserted into the compartment 114 of the housing 112. The opened end 117 of the cartridge 129 is desirably positioned adjacent the second end 120 of the housing 112. A liquid 115 may be contained in the cartridge 129 to keep the sheets 18 moistened.
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The end cap 122, the housing 112, and/or the dispensing cap 128 is desirably formed at least partially from a resilient material. Such a resilient material desirably permits the end cap 122, the housing 112 and/or the dispensing cap 128 to bend and flex sufficiently such that the dispenser 110 may be positioned between the support arms 30 in
30 a dispensing position. Resilient materials include rubber, plastic, polymers, any combination thereof, and so forth.

It will be appreciated that, like the housing 12 of the dispenser 10, the housing 112 of the dispenser 110 extends only between the support arms 30 of the fixture 26. No portion of the dispenser 110 provides any portion of the support arms 30 or the fixture 26.
35 When a roll of sheet material 41 is mounted on the dispenser 110, the first axis 90 extends through a center of the core 88 of the roll of sheet material 41 and the center of the

compartment 114 of the housing 112, and through the recess 38 of the support arms 30. The housing 112 is configured to substantially fill the core 88 of the roll of sheet material 41. In addition, the compartment 114 of the housing 112 is desirably substantially filled when sheets 18 are disposed therein.

5 A lower portion 166 of the dispensing cap 128 may be positioned on the second axis 92 which may not be parallel to the first axis 90. Desirably, the lower portion 166 may be positioned on the second axis 92 which intersects the first axis 90. More desirably, the lower portion 166 may be positioned on the second axis 92 which may be substantially perpendicular to the first axis 90. Similarly, the sheets 18 in the compartment 114 are
10 positioned on the first axis 90, but when withdrawn therefrom, the sheet 18 turns to follow the second axis 92 to be dispensed through the exit port 60.

In a method of use, as shown in Figures 5, 7 and 8, a roll of sheet material 41 is positioned on the roll mount dispenser 110. The dispenser 110, in turn, is releasably positioned between the support arms 30 of the fixture 26 by flexing the housing 112 and/or
15 the caps 122, 128 so that the buttons 145, 162, respectively, on each cap 122, 128 of the housing 112 each are positioned in a recess 38 of one of the support arms 30. The roll of sheet material 41 desirably rotates in a clockwise or counter clockwise direction about the roll mount dispenser 10.

To withdraw a sheet 18 from the roll mount dispenser 110, the user pushes the
20 finger tab 174 to move the door 170 to the side in an opened, dispensing position. The movable door 170 opens to reveal the exit port 160 and desirably a portion 98 of a sheet 18 contained in the chamber 164. When the portion 98 of the sheet 18 is pulled by a user, the sheet 18 moves from the opening 121 in the second end 120 of compartment 114 through the chamber 164 of the dispensing cap 128 and out the exit port 160. Desirably,
25 another portion 98 of another sheet 18 remains in a lower portion 166 of the dispensing cap 128 near the exit port 160, until that other sheet 18 is withdrawn. The movable door 170 is desirably urged into the closed, non-dispensing position by the spring 191.

In another embodiment of the present invention, as shown in Figures 9-13, a dispenser 210 and housing 212 are provided and are similar to the dispenser 10, 110 and
30 the housing 12, 112. The dispenser 210, however, has a different housing 212 and a different dispensing module or dispensing cap 228. The sheets 18 are substantially similar to the roll 16 of sheets 18 shown in Figures 1-4 and described previously herein.

The housing 212 is similar to housing 12, and has an opening 213 therethrough. The housing 212, however, is formed from a resilient material, which has been previously
35 described herein.

The second end 220 includes the dispensing cap 228, as shown best in Figures 11-13, which has a protruding member or fixed button 262 which extends therefrom and is configured to be received into the recess 38 of one of the support arms 30. The dispensing cap 228 fits over the opening 258 in the second end 220 of the housing 212, to permit sheets 18 to flow from the compartment 214 of the housing 212 through a chamber 264 to an exit port 260.

5 The exit port 260 is positioned in the lower end 267 of the lower portion 266 of the dispensing cap 228. An opening 290 is positioned in an outer wall 268 of the dispensing cap 228. An inner wall 278 is positioned opposite the outer wall 268, and is separated 10 therefrom by a perimeter wall 280, all of which cooperate to form a substantial portion of the chamber 264. The inner wall 278 includes an opening 279 therein which is configured to receive the second end 220 of the housing 212.

15 The dispensing cap 228 includes a finger tab 274 which is positioned on a movable door 289. The movable door 289 is positioned inside of the opening 290 and in the chamber 264, and it is movable to at least partially close and open the opening 290 in the chamber 264.

20 The door 289 includes prongs on each side of the upper end 294 (not shown). The prongs couple to guides 291 which permit the door to pivot and to move up and down within the confines of the guides 291. In addition, the door 289 desirably includes a spring 292. The spring 292 is coupled at one end to the inner surface 293 of the dispensing cap 228 and at the other end to the upper end of the door 289. The door 289 also has a lower end 295.

25 The spring 292 biases the door 289 upward, as shown in Figure 12. When a user presses the finger tab 274, it rotates the door 289 inward, toward the inner wall 278 and the door 289 moves in a downward direction 296, so that the lower end 295 frictionally presses the sheet 18 against the inner surface 293 of the dispensing cap 228 and down into and through the exit port 260, as shown in Figure 13. Once the user's finger is removed from the finger tab 274, the spring 292 biases the door 289 back to its previous upward position (Figure 12).

30 Any portion of the housing 212, the end cap 122, and/or the dispensing cap 228 may be formed from a resilient material. Alternatively, the end cap 122 may include a push button 24, as illustrated in Figures 2 and 4, and described previously herein.

It will be appreciated that, like the housing 12, 112 of the dispenser 10, 110, the housing 212 and dispenser 210 extends only between the support arms 30 of the fixture 35 26. No portion of the dispenser 210 provides any portion of the support arms 30 or the fixture 26. When a roll of sheet material 41 is mounted on the dispenser 210, a first axis

90 extends through a center of the core 88 of the roll of sheet material 41 and the center of the compartment 214 of the housing 212, and through the recess 38 of the support arms 30. The housing 212 is configured to substantially fill the core 88 of the roll of sheet material 41. In addition, the compartment 214 of the housing 212 is desirably substantially filled when sheets 18 are disposed therein.

The lower portion 266 of the dispensing cap 228 may be positioned on the second axis 92 which may not be parallel to the first axis 90. Desirably, the lower portion 266 may be positioned on the second axis 92 which intersects the first axis 90. More desirably, the lower portion 266 may be positioned on the second axis 92 which may be substantially perpendicular to the first axis 90. Similarly, the sheets 18 in the compartment 214 are positioned on the first axis 90, but when withdrawn therefrom, the sheet 18 turns to follow the second axis 92 to be dispensed through the exit port 260.

In a method of use, as shown in Figures 11-13, a roll of sheet material 41 is positioned on the roll mount dispenser 210. The dispenser 210, in turn, is releasably positioned between the support arms 30 of the fixture 26 by flexing the housing 212 and/or the caps 122, 228 so that the protruding members or buttons 145, 262, respectively, on each cap 122, 228 of the housing 212 each are positioned in a recess 38 of one of the support arms 30. The roll of sheet material 41 desirably rotates in a clockwise or counter clockwise direction about the roll mount dispenser 210.

To withdraw a sheet 18 from the roll mount dispenser 210, the user pushes the finger tab 274, which moves the movable door 289 inward and downward. The door 289 moves generally in the downward direction 296 and also pivots on a pivot axis or third axis 298 which permits the lower end 295 of the door 289 to frictionally engage the sheet 18 against the inner surface 293 of the dispenser cap 278, in a dispensing position. This frictional contact permits the lower end 295 of the door 289 to move the sheet 18 downward, through the exit port 260. Desirably, another portion 98 of another sheet 18 remains in a lower portion 266 of the dispensing cap 228 near the exit port 260, until that other sheet 18 is withdrawn. The movable door 289 is desirably urged into the non-dispensing position by the spring 292.

It will be appreciated that any dispenser and housing herein may use any structure, element, feature and/or characteristic shown and/or described herein. All structures, elements, features and/or characteristics, alone or in any combination, are deemed within the scope of the invention.

While the present invention has been described in connection with certain preferred embodiments it is to be understood that the subject matter encompassed by way of the present invention is not to be limited to those specific embodiments. On the

contrary, it is intended for the subject matter of the invention to include all alternatives, modifications and equivalents as can be included within the spirit and scope of the following claims.